(1) Find the set of values of x which satisfy the following:

(a) $2x > 1$

(b) $3x - 1 \le 6$

(c) $2 - 5x < -3$

(d) $4 - 0.2x \ge 3.6$

(e) $2x - 1 < 3x - 5$

(f) $3(x - 1) \ge 5(2 - x)$

(g) $2(3 - px) \le 4px - q$

(2) Solve the following inequalities:

(a) $(x - 1)(x + 2) < 0$

(b) $(2x - 1)(x - 3) \le 0$

(c) $(1 + 4x)(2 - 3x) > 0$

(d) $(0.3x - 1)(3x + 5) \ge 0$

(3) Find the set of values of x which satisfy each inequality:

(a) $x^2 - x - 6 < 0$

(b) $x^2 + 2x - 8 > 0$

(c) $10x^2 + 20x - 80 > 0$

(d) $x^2 + 3x \le 10$

(e) $2 - x - x^2 \ge 0$

(f) $x^2 > x$

(g) $2x^2 \le 4x + 96$

(4) Factorise and solve the following inequalities:

(a) $2x^2 - 5x - 3 > 0$

(b) $10x^2 + 3x - 1 \le 0$

(c) $4 - 7x - 2x^2 > 0$

(d) $6x^2 \le 4 - 5x$

(5) Find the set of values of x which satisfy each inequality:

(a) $x^2 - 4x + 1 < 0$

(b) $2x^2 + 8x - 3 \ge 0$

(c) $3x - x^2 \ge 1$

(6) (a) Find the set of values of x that satisfy $x + 1 < 0$.
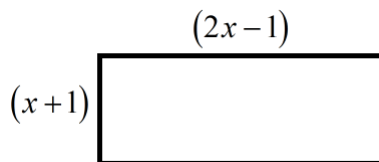
(b) Find the set of values of x that satisfy $(x - 1)(x + 2) < 0$.

(c) Find the set of values of x that satisfy both $x + 1 < 0$ and $(x - 1)(x + 2) < 0$.

(7) Find the set of values of x that satisfy both $7x \ge 4 - 2x^2$ and $2x - 3 < 0$.

(8) The sketch below shows a plan of a living room. The length of the room is $(2x - 1)$ and the width of the room is $(x + 1)$ where x is measured in meters.

$$(2x - 1)$$

$(x + 1)$ ⬜

Given that the area of the room must be at least 135 square meters and the total length of the walls cannot exceed 54 meters

(a) Find the set of values of x that satisfy both constraints.

(b) Hence find the maximum and minimum values of the area and perimeter of the room.